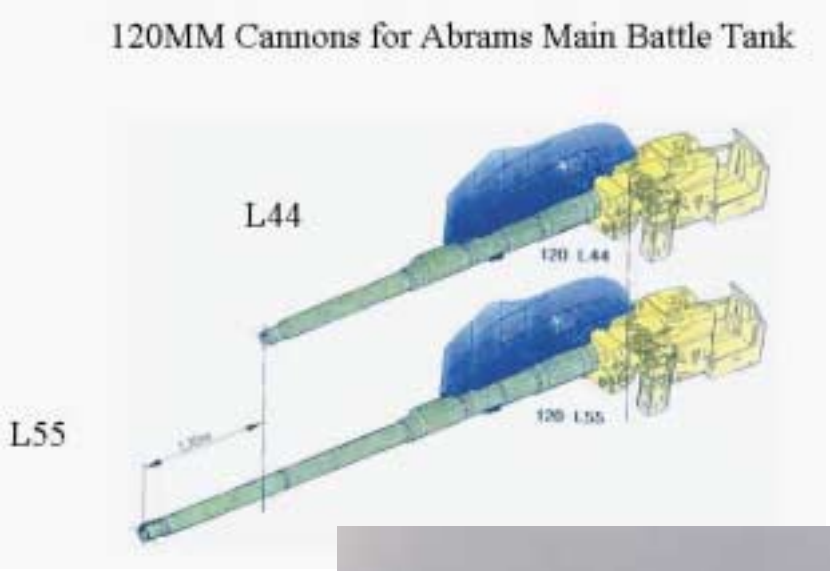
Advanced Tank Armament System (ATAS)



Advanced Tank Armament System (ATAS)

Essential R&D/Leap-Ahead Technologies

MISSION

Provide next-generation armament system technologies for the Abrams main battle tank and other direct-fire weapon system platforms; increase lethality and accuracy at extended ranges; and enable the crew to engage targets faster and more easily.

DESCRIPTION AND SPECIFICATIONS

The Advanced Tank Armament System (ATAS) program is working on two potential improvements: a longer-barrel cannon for the Abrams (M256E1 cannon) and extended-range fire control system improvements for all direct fire platforms.

The longer barrel of the M256E1 increases muzzle velocity and effective range, increasing the lethality of current kinetic energy (KE) tank ammunition and expanding the battlespace for the Abrams tank on future battlefields.

ATAS is investigating several technologies to improve fire control at extended ranges. Automatic target detection and tracking software decreases the time needed to acquire and engage enemy targets. Firing accuracy can be greatly enhanced by the addition of an improved muzzle reference system, advanced fire control solutions, state-of-the-art lead predictors, and improved gun servos and actuators. These improvements will enable the tank crew to quickly and accurately engage and destroy enemy targets at extended ranges.

FOREIGN COUNTERPART

Several countries already include ATAS components in their tank fleets. The French LeClerc incorporates a long-barrel 120 mm cannon, improved fire control, and an autoloader. The German Leopard is introducing a long barrel cannon with improved gun servos and actuators. The Israeli Merkava employs auto target trackers to improve gun accuracy.

FOREIGN MILITARY SALES

The U.S. continues to sell Abrams tanks to select allies. The ATAS program can provide added value to these potential sales with the longer gun and fire control improvements.

PROGRAM STATUS

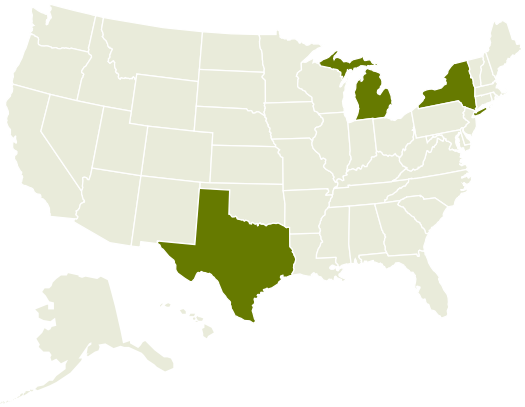
- Near-term efforts focus on evaluating the L55 German (long) gun tube for integration into the Abrams M256E1 cannon and completing testing of the automatic target tracker (ATT) and electronic muzzle reference sensor (EMRS). Emphasis will shift to evaluation and testing of advanced gun barrel coatings to improve weapon accuracy.
- Benet Labs is evaluating actual L55 hardware; General Dynamics Land Systems is investigating integration issues under an L55/M256E1 integration contract.
- The ATT has been integrated into the gunner's position of an Abrams tank and is being tested at Aberdeen Proving Ground, MD. Testing is proceeding well and is scheduled for completion in early FY00. EMRS durability testing at Twenty-Nine Palms, CA, is also scheduled for completion in early FY00.

PROJECTED ACTIVITIES

FY01 Conduct integration test and evaluation of the German L55/M256E1
FY00 Complete user testing of ATT
FY00 Complete durability testing of EMRS
FY02 Continue advanced gun-coating development

PRIME CONTRACTORS

Vehicle Integration: General Dynamics (Sterling Heights, MI)
Fire Control System: Raytheon (Plano, TX)
L55 Gun Tubes: Rheinmetall (Ratingen, Germany)
M256E1 Gun Tubes: Benet Labs (Watervliet Arsenal, NY)



* See appendix for list of subcontractors